

APPENDIX I MONITORING PLAN

Monitoring assesses whether the project was implemented as designed and if the project implementation direction (Appendices B and C) were effective in protecting natural resources. Two types of monitoring are conducted on the Superior National Forest:

- 1) Effectiveness monitoring
- 2) Implementation monitoring

Effectiveness Monitoring

Effectiveness monitoring addresses how well management actions achieve desired outcomes or objectives that are identified in the Forest Plan. The National Forest Management Act (NFMA) requires that National Forests monitor and evaluate their forest plans (36 CFR 219.11). Also, see Chapter 4 of the Forest Plan. This kind of monitoring is conducted over the entire Forest on a periodic basis and the monitoring results are used on future projects. Forest Plan monitoring results can be found in the Forest Plan Monitoring Report, available at the Superior National Forest Supervisor's Office in Duluth, Minnesota. The 2005, 2006, 2007, 2008, and 2009 monitoring reports along with other monitoring done on the Forest are available on the Forest web page at <http://www.fs.usda.gov/superior>, under Land and Resources Management, then Planning. For this project, effectiveness and implementation monitoring results would be summarized in the Forest Plan Monitoring report.

Implementation Monitoring

Implementation monitoring is tied to specific projects and the monitoring plan for the BWCAW NNIP Management Project is described in more detail below.

Implementation monitoring assesses whether the project was implemented as designed, and whether project implementation complies with the decision made on this project.

Implementation monitoring is designed to answer, "Did we do what we said we were going to do?" The following outline describes the kind of implementation monitoring that would be done for this project if an action alternative were selected for implementation.

In addition, the project interdisciplinary team would periodically review the project implementation as a whole during field trips and follow-up meetings. If monitoring indicates project implementation is not occurring as planned, measures would be taken immediately to correct the actions. For example, if treatments do not correctly meet design features for a resource area, or mitigations have not been met, changes in implementation would be made.

The results of project monitoring would be analyzed in a report and shared with the public on the forest's website.

The monitoring that would be part of the BWCAW NNIP Management Project is described below.

Project Implementation

Objective: Determine if project design was followed during implementation. For example, is wipe-on applicator used within 25 feet of water, or is spotted knapweed pulled and not sprayed.

Methods: Review treatments records to determine if applications follow project design, and have random site visits during field season.

Frequency: Annually

Responsibility: Project IDT

Treatment Effectiveness

Objective: Treatments eradicate or control NNIP.

Methods: Use qualitative assessment of treatment sites to visually observe NNIP abundance post treatment. Monitor a sample of treatment sites.

Frequency: Monitor a sample of treatment sites 1-5 years after treatment.

Responsibility: Plant Ecologist, Biological Technicians, Monitoring Crew, BWCAW Crew

Non-target plants

Objective: Acceptable levels of non-target plants are affected by treatments.

Methods: Use pre- and post- treatment photos of treatment sites to visually determine damage to non-target species.

Frequency: Monitor a sample of treatment sites 1-5 years after treatment

Responsibility: Plant Ecologist, Biological Technicians, Monitoring Crew, BWCAW Crew

Native plants

Objective: Native plants respond and fill gaps left by NNIP

Methods: Use photo monitoring and qualitative assessment on a sample of treatment sites to visually monitor native plant abundance and response at the treatment sites

Frequency: Monitor a sample of treatment sites 1-5 years after treatment.

Responsibility: Plant Ecologist, Biological Technicians, Monitoring Crew, BWCAW Crew